

Supporting Partners: RPDCs, local EDAs, chambers of commerce, industry organizations

Objective: *Develop a consistent system to identify and address needs of businesses that sustained direct and indirect impacts in any disaster by 2018*

Strategy: Identify an existing database or develop a new business database to support business damage assessment and accelerate deployment of assistance to businesses and workers impacted by a disaster

Action:

- Employ a business database that is accessible to local economic developers, workforce organizations and other partner organizations to conduct outreach to local businesses, assess business needs, and determine economic damage to their communities (Long-term)

Coordinating Agencies: WVDOC, Workforce WV

Supporting Partners: Regional workforce boards, chambers of commerce, RPDCs, chambers of commerce, industry organizations

Strategy: Establish working group/business recovery team to support business and workforce recovery following an economic disruption

Action:

- Identify and engage organizations that have a mission and tools to conduct business needs assessments, identify and deploy resources and conduct economic analysis (Intermediate)

Coordinating Agencies: WVDOC, WVDHSE

Supporting Partners: EDA, Appalachian Regional Commission, DOL, local EDAs, RPDCs, chambers of commerce, industry organizations, local emergency managers, WVSBC

Goal: Establish a thorough understanding of assets and vulnerabilities of local and regional economies

Objective: *Improve resiliency of the workforce that is essential to economic recovery and resiliency*

Strategy: Identify workforce vulnerabilities that impact business resiliency and post-disaster recovery

Action:

- Conduct a workforce analysis that includes displaced coal industry workers to identify workforce vulnerabilities and resources to address those vulnerabilities (Intermediate)

Coordinating Agencies: Workforce WV

Supporting Partners: WVDOC, DOL, EDA, USDA, local economic industry organizations

Objective: *Improve resiliency of the supply chains that are essential to economic recovery and resiliency*

Strategy: Identify supply chain vulnerabilities of primary industries that impact business resiliency and post-disaster recovery

Action:

- Conduct a supply chain analysis that includes existing and potential economic driver industries to identify supply chain vulnerabilities and identify strategies to address those vulnerabilities (Long-term)

Coordinating Agencies: WVDOC

Supporting Partners: RPDCs, industry organizations, EDA, USDA, local EDAs

Goal: Integrate economic resiliency in all community planning

Objective: Enhance economic resiliency concepts and performance measures in each of the 11 regional comprehensive economic development strategies by 2018

Strategy: Educate community planners and local leaders on the principles of economic resiliency planning

Action:

- Conduct economic resiliency training with local leaders, such as, economic developers, emergency management directors, and community planners (Short-term)

Coordinating Agencies: WVDOC, RPDCs

Supporting Partners: EDA, USDA, WVDHSEM, IEDC, the National Association of Development Organizations (NADO), EPA

Action:

- Organize and conduct grant workshops for state, regional and local leaders (Short-term)

Coordinating Agency: WVDOC

Supporting Partners: EDA, RPDCs, WVDHSEM, IEDC, NADO

Objective: Increase the staffing capacity of regional groups to manage economic recovery and integrate resiliency measures in their regions by 2017

Strategy: Explore resources to provide additional staff to manage economic recovery and resiliency

Action:

- Apply for funding to hire staff to develop and manage regional economic recovery and resiliency managers (Short-term)

Coordinating Agency: WVDOC,

Partner Agencies: EDA, RPDCs, Appalachian Regional Commission

Action:

- Hire regional economic recovery and resiliency managers to develop and manage plans and programs (Short-term)

Coordinating Agency: WVDOC

Supporting Partners: EDA, RPDCs, Appalachian Regional Commission

Issue: Infrastructure Capacity Needs Improvement

Long before the June flood, many of the impacted communities had been struggling with challenges posed by inadequate and deteriorating infrastructure. For example, only an estimated

35 percent of the residents in Clay County have potable water and 10 percent have sanitary sewer service. In Kanawha County, 95 percent of the residents have potable water service and 70 percent have sanitary sewer service, but many of the existing systems are aged, deteriorated, and in need of rehabilitation or replacement and relocation. Some of the systems have simply outlived their expected lifespan. For example, the Richwood waste-water treatment plant was constructed in the 1960s and needs to be upgraded or replaced.

Many of these communities have limited ability to obtain loans or provide the local matching funds required by federal infrastructure assistance programs. The local financial limitations stem from several economic realities including a shrinking customer base and an inability to increase water and sewer rates due to their customer's inability to pay. There is a severe capacity issue in many of these communities which lack the necessary staff to operate and maintain their systems. Communities should explore creating regional utility authorities and other options that could better support the maintenance of local water systems.

Site development specific to businesses and commercial facilities is also impeded by the abandoned buildings in many of the communities. Only one impacted county and one impacted municipality have a building commission and code enforcement program. The lack of building codes and building commissions in most counties makes removal of these abandoned buildings extremely difficult. There are resources available to assist communities with this process including the WVU Leap toolkit located at <http://wvleap.wvu.edu/>.

Debris removal remains a problem in the flood impacted area. Identifying funding resources to support removal of debris piles not eligible for FEMA assistance is problematic for these small local governments with limited resources to dedicate to this problem.

Goal: Provide underserved areas with access to water and sewer service

Objective: Extend potable water service and sewer service to 50 percent of the underserved areas by 2025

Strategy: Study each impacted area to assess needs

Action:

- Conduct a county-wide study for those identified as the highest priority for public water service (Intermediate)
 - Coordinating Agencies: RPDCs, local governments
 - Supporting Partners: USDA, WV Infrastructure and Jobs Development Council (WVIJDC), West Virginia Bureau of Public Health (WVBPH), WVDOC, Appalachian Regional Commission, EDA, USACE

Strategy: Complete infrastructure projects in highest priority areas

Action:

- Prioritize projects, obtain funding and construct/extend potable water service to underserved areas (Intermediate)

Coordinating Agencies: Local government, Public Service Districts
Supporting Partners: RPDCs, USDA, WVIJDC, WVBPH, WVDOC, Appalachian Regional Commission, EDA, USACE

Goal: Upgrade existing water and sewer system to better serve impacted area.

Objective: *Upgrade condition and capacity of at least 50 percent of the identified existing water and sewer systems by 2025*

Strategy: Analyze and upgrade water and sewer capacity in the impacted area

Action:

- Conduct a water and sewer capacity study to identify needed upgrades and to prioritize projects based on need. Studies should include consolidation possibilities, and consider opportunities to establish regional utility authorities (Intermediate)
Coordinating Agencies: RPDCs, local governments, and public service districts
Supporting Partners: WVIJDC, WVDEP, WVBPH, Appalachian Regional Commission, WVDOC, USDA, EDA, USACE, EPA

Action:

- Select the top identified needs, pursue funds, design, and construct (Intermediate)
Coordinating Agencies: RPDCs, local governments, and public service districts
Supporting Partners: WVIJDC, WVDEP, WVBPH, Appalachian Regional Commission, WVDOC, USDA, USACE, EPA

Action:

- Consolidate water/sewer service and/or form regional authorities to enable shared operation and management services (Intermediate)
Coordinating Agencies: Regional utility systems
Supporting Partners: WVIJDC, WVDEP, WVBPH, Appalachian Regional Commission, WVDOC, USDA, EDA, USACE

Goal: Removal of abandoned dilapidated buildings in impacted communities

Objective: *Demolish 60 percent of unsafe structures in flood impacted communities*

Strategy: Enact a code enforcement program

Action:

- Form a building commission for legal condemnation and enforcement (Intermediate)
Coordinating Agencies: Local governments
Supporting Partners: RPDCs

Action:

- Adopt building codes (Intermediate)
Coordinating Agencies: Local governments
Supporting Partners: RPDCs

Action:

- Secure funding to create and provide staffing for a code enforcement department; options could include the establishment of a business and occupation tax program, shared staffing programs, and grant applications (Intermediate)

Coordinating Agencies: local governments

Supporting Partners: USDA, EDA, WVDOC, Appalachian Regional Commission

Goal: Ongoing debris removal program in flood impacted area

Objective: Removal of 80 percent of remaining stream and river debris in flood impacted area by the end of 2017

Strategy: Establishment and implementation of a program to remove debris (FEMA ineligible) from waterways in the impacted area

Action:

- Establish a list of all debris sites (Short-term)

Coordinating Agencies: West Virginia Conservation Authority, local governments

Supporting Partners: EPA, Appalachian Regional Commission, EDA, RPDCs, WVARNG, WVDOC, private foundations

Action:

- Secure funds and remove debris (Short-term)

Coordinating Agencies: West Virginia Conservation Authority, local governments

Supporting Partners: RPDCs, WVARNG, WVDOC, Appalachian Regional Commission, EDA, private foundations

Issue: Support to Create and Sustain Regional Brands

Community and regional brands are often the most vulnerable assets when a major economic disruption occurs. A community's brand, the word-of-mouth public perception, images, messages, promotions, and the regional economy are inextricably related. When any one of these elements sustains damage, all are adversely affected.

This interconnected relationship is particularly evident in regions directly impacted by the 2016 flood. These rural areas are in the heart of the coal producing region and, therefore, were already dealing with the challenge of building a brand that would attract new businesses, residents, and visitors. The state's tourism brand "Wild and Wonderful", which promotes the many outdoor recreation options, is still challenged by the negative publicity and misinformation that has been spread through traditional and social media channels since the flood. The Economic RSF and its federal partners have met with regional and state economic development and tourism leaders in the most heavily impacted southern region, including Fayette, Greenbrier, Nicholas, Pocahontas, and Webster counties, to discuss the impact of the recent flood on local businesses, many of which depend on tourist dollars. The regional leaders said they would like to pursue the development of a regional branding strategy that would assist in attracting businesses, residents, and visitors to the

area. Federal partners plan to work with the Region 4 Planning and Development Council and its members to explore resources to develop a branding strategy.

The center of the current tourism industry and a key player in building a southern West Virginia region is Greenbrier County; a county that generates \$98 million annually in economic revenue. It is home to the most well-known tourist destination in the state, the Greenbrier Resort, which employs about 1,800 individuals. It was closed for weeks and its signature event, the Greenbrier Classic PGA Tour tournament, was canceled because of the June flood. At the time of the tournament cancellation there were about 33,000 ticket holders, and all 710 guest rooms had been rented. When fully accounted, the resort owners expect the losses will be in the millions of dollars. Greenbrier County's Convention and Visitors Bureau created the "Tourism Recovery Marketing Plan" aimed at countering the public's impression that the devastation caused by the flash flooding has closed the region's tourism industry.

Goal: Minimize post disaster impact on regional brands

Objective: *To develop a strategy to manage and counter negative media coverage and public perception of regional brands following a disaster in 2017*

Strategy: Develop policy and procedures to guide local and regional leaders on how to manage media and counter negative publicity

Action:

- Develop a disaster response/crisis communication plan to direct tourism marketing and business response activities before, during, and after a major disruption of tourism destinations and businesses (Intermediate)

Coordinating Agencies: WV Division of Tourism

Supporting Partners: WVDOC, WVACVBs, local EDAs, RPDCs, industry organizations

Strategy: Establish a dedicated source of funding to execute a tourism communications and branding campaign to counter negative publicity following a disaster

Action:

- Conduct a survey of other states to identify funding sources for tourism promotion and branding (Short-term)

Coordinating Agencies: WV Division of Tourism

Supporting Partners: WVDOC, WVACVBs, local EDAs, and RPDCs

Action:

- Identify funding sources to create a rainy-day fund to support development of a marketing and public relations disaster response campaign (Intermediate)

Coordinating Agencies: WV Division of Tourism

Supporting Partners: WVACVBs, local EDAs, and RPDCs

Action:

- Develop disaster response public relations and branding plan to direct tourism promotion activities and business recovery communications in a post disaster environment (Intermediate)

Coordinating Agencies: WVDOC, WV Division of Tourism

Supporting Partners: WVACVBs, local EDAs, and RPDCs

Potential Resources:

Appalachian Regional Commission

Community Infrastructure focuses primarily on the provision of water and wastewater services to support business and community development projects, and to alleviate public and environmental health hazards.

Entrepreneurship and Business Development supports a variety of activities to promote entrepreneurship and business development in the Appalachian Region. These activities help diversify the Region's economic base, develop and market strategic assets, increase the competitiveness of existing businesses, foster the development and use of innovative technologies, and enhance entrepreneurial activity. ARC entrepreneurship and business development activities include:

- Giving entrepreneurs' greater access to capital, including support for microcredit programs, revolving loan funds, and development venture capital funds.
- Educating and training entrepreneurs through youth education programs and adult training initiatives.
- Encouraging sector-based strategies to maximize the economic strengths of local communities; and
- Providing strategic support for business incubators and other forms of technical assistance.

Grant Programs awarded to states, public bodies, and private nonprofits for projects that create opportunities for self-sustaining economic development and improve quality of life for the people of Appalachia. ARC has four different types of Grants that fund environmental protection related activities: regional development grants, area development grants, local development district assistance grants, and research, technical assistance, and demonstration project grants. Grants for physical basic infrastructure including water and sewer facilities that enhance economic development opportunities or address serious health issues for residential customers.

CNCS

Corporation for National and Community Service helps millions of Americans improve the lives of their fellow citizens through service. Working hand in hand with local partners, CNCS invests in thousands of nonprofit and faith-based groups that are making a difference across the country through AmeriCorps, Senior Corps, the Social Innovation Fund, and the Volunteer Generation Fund Programs

EPA

Drinking Water State Revolving Funds (DWSRF) is offered through the West Virginia Bureau for Public Health and is a partnership between federal and state to help ensure safe drinking water, the program provides financial support to water systems and to state safe water programs. States get the revolving funds and match it then use that money to provide loans and other authorized assistance to fund eligible infrastructure projects. Used for drinking water treatment, fixing leaky or old pipes, water supply source, etc. As communities pay back their loans the money goes back into the pot to be revolved and used again somewhere else.

FEMA

Hazard Mitigation Grant Program (HMGP) assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration, the state needs a FEMA approved Enhanced State Mitigation Plan at the time of the disaster declaration to be eligible for increased funds under HMGP.

Flood Mitigation Assistance (FMA) Program is for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the National Flood Insurance Program. FEMA requires state or local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance.

Pre-Disaster Mitigation (PDM) Program assists states or local communities in implementing a sustainable pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal assistance funding in future disasters. This program awards planning and project grants and provides opportunities for raising public awareness about reducing future losses before disaster strikes.

HUD

CDBG includes annual grants to qualified cities and counties to provide housing, expand economic opportunities and carry out a wide range of community development activities, including the construction and upgrade of public utilities such as water and sewer facilities. It should be noted that HUD funding only targets areas and populations which fall within certain economic criteria (poverty, minorities).

ITA

The Global Markets Unit combines ITA's country and regional experts, overseas and domestic field staff, and specific trade promotion programs to provide U.S. firms with the full suite of country-specific export promotion services and market access advocacy, while promoting the United States as an investment destination.

NEMA

National Emergency Management Association provides information, support, and expertise for emergency management professionals at all levels of government and the private sector who prepare for, mitigate, respond to, recover from, and provide products and services for all emergencies, disasters, and threats to the nation's security.

NRCS

Emergency Watershed Protection Program provides funding and technical assistance to conserve natural resources; this is an emergency recovery program. Removes debris from streams, road culverts, and bridges, reshapes and protects eroded banks, repairs damaged drainage facilities, etc.

NTIA

NTIA manages two broadband grant programs funded by the American Recovery and Reinvestment Act. **Broadband Technology Opportunities Program (BTOP)** and the **State Broadband Initiative (SBI)** through these programs, NTIA is overseeing an investment of approximately \$4 billion in projects throughout the United States to support the deployment of broadband infrastructure, enhance and expand public computer centers, encourage sustainable adoption of broadband service, and promote statewide broadband planning and data collection activities. The State Broadband Initiative is also responsible for creation and maintenance of the **National Broadband Map**.

RISE WV

RISE WV helps communities rebuild in a way that promotes economic prosperity above and beyond pre-flood levels. RISE West Virginia was created in response to critical needs in the small business community resulting from the devastating floods of June 2016. This public-private grant program provides assistance for small businesses that were operational before the flooding and are working to reopen while struggling with existing debt and limited resources. The West Virginia Development Office oversees the program in partnership with the West Virginia Chamber of Commerce.

RPDCs

Regional Planning and Development Councils there are 11 RPDCs covering WV, each with its own counties' service areas each with its own unique blend of programs to strategically and effectively plan for the comprehensive development of its service area. Such planning includes, but is not limited to, infrastructure development, economic development, education, community development, health care improvement, resource development, intergovernmental coordination, social enrichment, transportation enhancement, and environment protection. Inclusive and integral to the Council's comprehensive planning is the ultimate goal of ensuring that the region's public Services and facilities are maintained at acceptable levels toward the aim of promoting general health, safety, economic prosperity, and welfare of all its citizens.

SBA

US Small Business Administration-Business Assistance Programs offers programs to aid, counsel, and assist small businesses, preserve free competitive enterprise, and maintain and strengthen the overall economy through technical assistance and loans.

Small Business Development Centers provide expert guidance to help small businesses succeed. They provide services and assistance throughout the development process including concept, startup, and growth.

SCORE

SCORE West Virginia mentors, comprised of active and retired business men and women, provide clients with free and confidential business counseling. Counseling can be conducted at the client's place of business, at our chapter headquarters, by telephone or via email.

USACE

Environmental Infrastructure Section 340 provides design and construction assistance to nonfederal interests, including nonprofit entities, for carrying out water related environmental infrastructure and resource protection and development projects in southern WV, including projects for wastewater treatment and related facilities; water supply, storage, treatment, and distribution facilities; surface water resource protection and development, and environmental restoration. These projects are cost shared with a nonfederal sponsor and funded 75% Federal and 25% nonfederal.

Environmental Infrastructure Section 571 provides design and construction assistance to non-Federal interests, including nonprofit entities, for carrying out water related environmental infrastructure and resource protection and development projects in southern WV, including projects for wastewater treatment and related facilities; water supply, storage, treatment, and distribution facilities; surface water resource protection and development for 18 counties in central WV. Projects are selected for implementation from a competitive application process administered by the Corps and the WVIJDC. Projects are cost shared 75% Federal and 25% nonfederal.

Flood Plain Management Services Section 206 provides a full range of technical services and planning guidance that is needed to support effective flood plain management, funding must be requested and is provided to state, regional, and local governments.

Silver Jackets Partnership between Federal and State agencies who work together to leverage resources and funding. The Silver Jackets program goals are to facilitate strategic life-cycle flood risk reduction, create or supplement continuous mechanism to collaboratively solve state-prioritized issues and implement or recommend those solutions. Leverage and optimize resources, improve and increase flood risk communication and present a unified interagency message, and establish close relationships to facilitate integrated post-disaster recovery solution.

USDA

Rural Development-Rural Community Development Initiative Grants provides funding to help non-profit housing and community development organizations support housing, community facilities, and community and economic development projects in rural areas.

Rural Business Development Grants Assists the startup or expansion of small and emerging private businesses and/or non-profits in rural communities. **Note:** This program combines the former Rural Business Enterprise Grant and Rural Business Opportunity Grant programs and was created through the 2014 Farm Bill.

Rural Micro-entrepreneur Assistance Program: Establishes revolving funds to target assistance to small rural enterprises. Provides loans, technical, and capacity- building assistance to businesses with 10 or fewer employees and sole proprietorships.

- Rural Economic Development Loans and Grants: Programs to finance economic development and job creation in rural areas. Rural Utilities Service- financed electric and telephone utilities. Business startups or expansion projects that create rural jobs. Rural areas with priority to places with populations of 2,500 or less.
- Value Added Producer Grants: Helps agricultural producers enter into value-added activities related to the processing and/or marketing of bio-based, value-added products. Generating new products, creating and expanding marketing opportunities, and increasing producer income are the goals of this program.

USDOL

Worker Education and Training provides programs for building the skills and competencies of American workers essential to ensuring the competitiveness of business in the global economy. The public workforce system recognizes that training for individuals must align with the needs of business and industry. There are several ways that the public workforce system supports this need for training.

- **Pre-employment Training:** Most of the training offered by the public workforce system is available for individuals who are unemployed or underemployed. It is designed to help people develop the skills they need to enter the workforce in a high-growth, high-demand occupation as quickly as possible.
- **On-the-Job Training:** Certain jobs will require training at the workforce that is beyond what individuals receive through pre-employment training. Under certain circumstances, employers may receive reimbursement for up to 50 percent of the costs to provide additional on-the-job training for individuals who were hired through the public workforce system.
- **Incumbent Worker Training:** The majority of training opportunities through the public workforce system are for individuals who are unemployed or underemployed, however, many states and local areas also support incumbent worker training as a critical facet of their regional economic development strategy. In fact, lifelong learning is increasingly the

norm--and continuous skill development is often required to keep a step ahead of the global competition.

- Registered Apprenticeship: Provides registered apprenticeship program as a structured way for companies to support career development for their employees.

DOEd

Adult Education and Literacy Programs administers programs that help American adults get the basic skills they need including reading, writing, math, English language proficiency, and problem-solving to be productive workers, family members, and citizens.

EDA-DOC

EDA Public Works and Economic Adjustment Assistance Programs

- Public Works Programs: empowers distressed communities to revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term, private sector jobs and investment.
- Economic Adjustment Assistance Programs: assists state and local interests in designing and implementing strategies to adjust or bring about change to an economy. The program focuses on areas that have experienced or are under threat of serious structural damage to the underlying economic base. Under Economic Adjustment, EDA administers its Revolving Loan Fund (RLF) Program, which supplies small businesses and entrepreneurs with the gap financing needed to start or expand their business.
- EDA Planning and Local Technical Assistance Programs: assists eligible recipients in developing economic development plans and studies designed to build capacity and guide the economic prosperity and resiliency of an area or region. The Planning program helps support organizations, including District Organizations, Indian Tribes, and other eligible recipients, with Short Term and State Planning investments designed to guide the eventual creation and retention of high-quality jobs, particularly for the unemployed and underemployed in the Nation's most economically distressed regions.

US Treasury

The Community Development Financial Institutions Fund (CDFI Fund) plays an important role in generating economic growth and opportunity in some of our nation's most distressed communities. By offering tailored resources and innovative programs that invest federal dollars alongside private sector capital, the CDFI Fund serves mission-driven financial institutions that take a market-based approach to supporting economically disadvantaged communities. These mission-driven organizations are encouraged to apply for CDFI Certification and participate in CDFI Fund programs that inject new sources of capital into neighborhoods that lack access to financing.

WorkForce West Virginia

WorkForce WV provides a one-stop center for work force resources, including job opportunities, unemployment compensation, training, tax incentives, and labor market information. Services are available at 13 comprehensive career centers throughout the state. In addition, WorkForce West Virginia has the largest online database of job seekers and job openings in the state. By making available the appropriate educational and training opportunities, Workforce WV can provide programs and funding for the work skills needed by businesses.

WVDOC

Main Street Program provides technical assistance to West Virginia's nationally-certified Main Street communities. Communities learn how to make their revitalization efforts more effective with Main Street services and training customized to meet local needs. Key areas include business retention and recruitment, market analysis, fundraising, vision and strategic planning, and property development.

WVDOT

Nontraditional Transportation Grant Programs provides support to programs supporting tourism:

- Transportation Enhancement Program (TEP)
- Recreational Trails Program (RTP)
- National Scenic Byways Program (NSBP)

WVDHHS

Drinking Water/Treatment Revolving Fund provides financial assistance to public water systems to finance the cost of eligible infrastructure improvements needed to comply with the requirements of the Federal Safe Drinking Water Act (SDWA) and to protect public health. The fund established procedures and standards for project eligibility in accordance with the requirements of Federal and State law including the guidance from the EPA and is administered through the West Virginia Bureau for Public Health

WVDHSEM

Statewide Local Implementation Grant Program provides assistance to State, regional, tribal, and local jurisdictions to identify, plan, and implement the most efficient and effective way for such jurisdictions to utilize and integrate the infrastructure, equipment, and other architecture associated with the nationwide public safety broadband network to satisfy the wireless communications and data services needs of that jurisdiction, including with regards to coverage, siting, and other needs.

WVIJDC

Infrastructure and Jobs Development Council Grant and Loan Programs and Economic Bond Program was created to be West Virginia's funding clearinghouse for water and wastewater projects. The Economic Infrastructure Bond Fund is a loan program to encourage economic development throughout the state. Funding per project is limited to a maximum of \$3 million.



Housing

U.S. Department of Housing and Urban Development

Mission: *coordinates and facilitates the delivery of Federal resources to implement housing solutions that effectively support the needs of the whole community and contribute to its sustainability and resilience. Housing is a critical and often challenging component of disaster recovery, but must be adequate, affordable, and accessible to make a difference for the whole community.*

This section summarizes key findings impacting the housing situation following the disaster and defines recovery issues, goals, objectives, and strategies for recovery.

Key Findings

The Housing RSF identified three primary recovery issues affecting the designated counties:

- Increased financial burdens on households after the disaster
- Lack of habitable and environmentally healthy housing
- Lack of resilient housing options

Federal, state, and local partners developed the following goals, objectives, strategies, and actions to address these findings.

Issue: Increased financial burdens on households after the disaster

After the June 2016 flooding and landslides, 9006 total registrations were received from survivors in the twelve FEMA designated counties, 4918 applicants received housing assistance and 2168 applicants were ineligible for housing assistance due to the pre-existing condition² of the house, insufficient damage, having flood insurance, or the damaged property was not the applicant's primary residence.

Homeowners most affected by the recent disaster are at a disadvantage due to several factors, including: a lack of economic stability necessary to maintain properties, geographic constraints limiting where homes are located, weak or nonexistent building and land-use codes, discrepancies in property titles, and a general dearth of knowledge on how properties can be mitigated. Although these challenges are not uncommon, they are exacerbated by a general shortage of resources in the

² If a home's pre-disaster condition is excessively deteriorated, FEMA may not attribute the damage to the disaster. For example, if a roof is badly deteriorated and water damage has occurred, the roof may not be included in the damage estimate but the impact of the water in the home would be included in the FEMA Verified Loss.

most affected communities. Irrespective of the support provided by FEMA, community or other organizations, there is a significant unmet financial need experienced by virtually every survivor. Homes and communities which are resilient are more capable of recovering from disasters without excessive economic impact to the residents.

Goal: Build housing resiliency by minimizing financial risk due to disaster

Objective: Increase household resiliency by educating 70% of the households by 2019

Strategy: Educate households on preparedness options

Action:

- Develop and execute communication strategies to educate homeowners and renters in the most vulnerable areas on available resources and programs, such as the USDA Prudent Preparedness Program or the American Red Cross Disaster Preparedness Plan (Intermediate)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, USDA, WVDHSEM, American Red Cross, FEMA

Strategy: Develop incentives to encourage mitigation strategies while rebuilding.

Action:

- Form a task force to develop incentive strategies that promote effective mitigation to support long-term community resilience (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: HUD, USDA, FEMA

Action:

- Support local communities to incorporate mitigation task force recommendations into their recovery strategies (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: RPDAs, local governments

Action:

- Mitigate all damaged structures. (Long-term)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: HUD, USDA

Strategy: Complete all home repairs to disaster-damaged units not involving structural mitigation

Action:

- Identify federal, state, and nongovernmental resources to assist families and homeowners impacted by flooding who have limited financial means to address stresses associated with home ownership, such as those that HUD Housing Counseling programs provide. (Long-term)

Coordinating Agency: WVVOAD

Supporting Partners: Philanthropic Groups, Case Managers, WVDOC (SRO)

Action:

- Identify programs and organizations to assist homeowners with customary home repairs not involving structural mitigation, such as those offered by National VOADs including faith-based organizations, financed by private donations and philanthropic organizations. (Short-term)

Coordinating Agency: WVVOAD

Supporting Partners: Philanthropic Groups, Case Managers, WVDOC (SRO)

Strategy: Provide owners of older and historic homes with guidance to mitigate their flood damaged structures

Action:

- Provide coordination regarding the availability of Hazard Mitigation Grant Program (HMGP) funds to mitigate impacted older and historic homes. (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: Department of the Interior (DOI), HUD, FEMA-EHP, AIA, APA, WV Home Builders Association

Action:

- Schedule a workshop with interested state or regional planning, architectural, and engineering associations and organizations to develop a model hazard mitigation guide for older and historic homes. (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: DOI, HUD, FEMA-EHP, AIA, WV Home Builders Association

Strategy: Address property title issues that prevent eligibility for federal assistance

Action:

- Identify programs to help citizens living on heirship properties obtain ownership documentation, such as those the West Virginia Legal Aid Society offers. (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: WVVOAD, FEMA, HUD, Legal Aid Society

Action:

- Develop outreach programs to address legal and credit issues, financial counseling, insurance, *et al* (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: WVVOAD, FEMA, HUD, Legal Aid Society

Objective: By January 1, 2018, encourage the adoption of building and land use standards

Strategy: Adopt state-wide land development standards, including modern building code requirements for local adoption and enforcement

Action:

- Conduct educational seminars on land development standards and building code enforcement to satisfy NFIP standards (Intermediate)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, WVAPA, WVU

Action:

- Conduct peer-to-peer workshops to highlight importance of land development planning and building codes (Intermediate)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, WVAPA, WVU

Action:

- Retain retired building code officers to enforce codes during disaster recovery (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partner: International Code Council (ICC)

Action:

- In counties and local communities without certified building code officials, provide certified professionals to enforce building codes (Intermediate)

Coordinating Agencies: WVDOC (SRO), local governments

Supporting Partner: ICC

Action:

- Amend the State building code to require local governments to adopt and enforce building codes (Long-term)

Coordinating Agencies: WVDOC (SRO), WVHSEM, Governor's Office

Supporting Partner: ICC

Objective: By January 1, 2019 identify all remaining housing gaps in disaster-impacted communities and explore options to address non-affected low- and moderate-income families

Strategy: Identify issues preventing individual household disaster recovery

Action:

- Conduct a study to identify and analyze housing gaps (Short-term)

Coordinating Agencies: WVDOC (SRO), WVHDF

Supporting Partners: HUD, USDA Counseling agencies, FEMA Case Management, EDA

Strategy: Address issues preventing individual household recovery

Action:

- Conduct workshops/seminars to educate local case managers, local and state governments and nonprofits on the availability and applicability of federal programs. (Short-term)

Coordinating Agencies: WVDOC (SRO), WVVOAD

Supporting Partners: HUD, USDA, CNCS

Strategy: Increase housing opportunities for low- and moderate-income households based on local market demands

Action:

- Access federal resources assisting disaster survivors, such as USDA-RDs Water and Waste Disposal and Home Repair Programs, and those the WVHDF provides (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, USDA, SBA

Action:

- Coordinate efforts to work directly with regional and local governments to inform them of opportunities to improve the availability and affordability of housing during disaster recovery (Short-term)

Coordinating Agencies: WVDOC (SRO), WVHDF

Supporting Partners: USDA, HUD, Appalachian Regional Commission, Community Works WV

Action:

- Utilize USDA-RD properties and other assets to provide permanent housing opportunities to disaster survivors (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVHDF

Supporting Partner: USDA, HUD

Action:

- Evaluate potential for a set-aside Housing Choice Voucher Program to provide permanent housing solutions to disaster survivors (Long-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, WVHDF, WVDOC

Action:

- Assess FEMA multi-family housing program for potential to create permanent housing opportunities to disaster survivors (Long-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: FEMA, WVHDF, WVDOC

Action:

- Address housing needs for nonimpact low- and moderate-income families, with potential resources such as those HUD, USDA, and WVHDF provide (Long-term)

Coordinating Agency: WVHDF

Supporting Partners: HUD, USDA, Appalachian Regional Commission, Community Works WV

Objective: By end of 2019, make federal programs more flexible and less restrictive to quickly and efficiently accommodate disaster recovery

Strategy: Identify all Housing RSF partner programs that could be modified to be available to disaster survivors and impacted communities

Action:

- Create protocols for waivers that will allow federal resources, such as the HOME funds program, not normally available for disaster recovery, to be made available following Presidential-declared disasters (Intermediate)

Coordinating Agencies: FEMA, HUD

Supporting Partners: UDSA, EDA, USACE

Action:

- Coordinate with federal program managers and fund administrators to ensure that such waiver adoption processes are in place (Intermediate)

Coordinating Agencies: FEMA, HUD

Supporting Partners: USDA, EDA, USACE, WVHDF, Community Works WV, Appalachian Regional Commission

Strategy: Identify needed waivers to make federal programs applicable for disaster recovery

Action:

- Work with the responsible state agencies and fund administrators of federal programs to obtain all needed waiver requests (Intermediate)

Coordinating Agencies: FEMA, HUD

Supporting Partners: USDA, EDA, USACE, WVHDF, Community Works WV, Appalachian Regional Commission

Action:

- Utilize best practices from previous disaster declarations to identify which federal programs are best suited to support disaster survivors and impacted communities (Long-term)

Coordinating Agencies: FEMA, HUD

Supporting Partners: USDA, EDA, USACE, WVHDF, Community Works WV, Appalachian Regional Commission

ISSUE: Lack of Habitable and Environmentally Healthy Housing

Disasters affect underserved populations at a higher rate and intensity than the general population. The most vulnerable of these populations, including senior and low- and moderate-income families, are the least able to recover from a disaster. Floods can create unstable and unhealthy communities with moldy homes and blighted and abandoned neighborhoods.

Many West Virginia disaster survivors were suffering from unemployment and underemployment due to a significant downturn in the coal and other extractive industries before the disaster made their situation worse. Nearly 61 percent of the households FEMA referred for housing assistance were low- and moderate-income families according to the 2016 HUD Section 8 eligibility tables. The poverty level for West Virginia is 18.1 percent versus 15.6 percent nationally, according to the American Community Survey. Within the impacted West Virginia communities, the low- and moderate-income percentage ranged from 39 to 81 percent.

Goal: Address mold remediation issues

Flood waters can wick high into drywall and insulation. Without proper abatement, a persistent indoor health hazard will exist. FEMA estimates of flood damage do not consider mold mitigation costs.

Objective: By April 30, 2017, complete all flood-impacted home mold remediation measures

Strategy: Encourage mold remediation in flood-affected homes

Action:

- Identify leading edge mold remediation technology, strategies, and programs, including those listed by the Office of Technology and Innovation of the CDC (Short-term)
Coordinating Agency: WVVOAD, WVHDF, WVDOC (SRO)
Supporting Partners: HUD, HHS, EPA

Action:

- Coordinate with the Office of Lead Hazard Control and Healthy Homes within HUD to provide technical assistance for local mold remediation programs (Short-term)
Coordinating Agency: WVVOAD, WVHDF, WVDOC (SRO)
Supporting Partners: HUD, HHS, EPA

Action:

- Identify mold remediation funding available to households affected by disaster (Short-term)
Coordinating Agency: WVDOC (SRO)
Supporting Partners: HUD, HHS, EPA, WVVOAD, WVHDF

Action:

- Complete all mold remediation projects (Short-term)
Coordinating Agency: WVVOAD, WVHDF
Supporting Partners: HUD, HHS, EPA, WVVOAD, WVHDF

Goal: Rural and small towns are absent of blighted or abandoned properties

Several vacant and/or dilapidated buildings existed before the flooding and others were created as a result of the floods.

Objective: By July 2018 abate all blighted conditions in the 12 designated counties

Strategy: Identify and abate all destroyed, vacant, and derelict structures within the impacted communities and rural areas

Action:

- Conduct a study to identify blighted and derelict properties (Intermediate)
Coordinating Agencies: WVDOC (SRO), State Coordinating Officer (SCO), WVHDF
Supporting Partners: EPA, HUD, RPDCs

Action:

- Develop a plan for funding and implementing a blight abatement program that may include environmental hazards (asbestos, lead, etc.) (Intermediate)

Coordinating Agencies: WVDOC (SRO)
Supporting Partners: EPA, HUD, HHS-CDC, RPDCs

Action:

- Remove and properly dispose of all destroyed, vacant, and derelict structures within the impacted communities and rural areas (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVHDF
Supporting Partners: EPA, HUD, FEMA, WVARNG

Strategy: Encourage private redevelopment of blighted properties

Action:

- Develop incentive programs to encourage rehabilitation of homes(Short-term)
Coordinating Agencies: WVDOC (SRO), WVHDF, WVDOC
Supporting Partners: EPA, HUD

Action:

- Develop incentive programs to encourage rehabilitation of nonresidential properties (Short-term)
Coordinating Agencies: WVDOC (SRO), WVHDF, WVDOC
Supporting Partners: EPA, HUD

Goal: West Virginia housing is more energy efficient and environmentally sustainable

Objective: Double the energy efficiency and sustainability of the reconstructed housing stock in disaster impacted communities by December 2019

Strategy: Incorporate weatherization, energy efficiency and sustainable design in all recovery reconstruction

Action:

- Secure funding to incorporate weatherization, energy efficiency and sustainable design in all recovery reconstruction, such as those HUD, EPA, and NREL offer (Intermediate)
Coordinating Agency: WVDOC (SRO)
Supporting Partners: NREL, HUD, EPA

Goal: Surface waters in impacted watersheds are free of untreated human waste

Flooding damaged or destroyed several hundred private, individual septic systems in many areas not served by public systems. Private leach fields, by necessity, are sited next to creeks and streams because of the narrow valley topography. Leachate from the damaged or destroyed septic systems readily flow into the creeks and streams, which happen to be regional tourism assets because of the many recreational opportunities they present.

Objective: By April 1, 2019 repair or replace all individual, private waste treatment systems damaged during the June flooding event

Strategy: Coordinate with the WVDEP, USDA, and EPA regarding the availability of funding to repair or replace all individual private water treatment systems damaged during the June flooding event

Action:

- Remediate damaged and destroyed individual, private waste treatment systems (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDEP, WVHDF

Supporting Partners: EPA, HUD, USDA

ISSUE: Lack of Resilient Housing Options

Many of the homes affected during this disaster have experienced multiple flooding events in recent years and will continue to suffer impacts in future events unless thoughtful and responsible mitigation measures are adopted. Since 2009 two of the designated counties have experienced six flooding disaster declarations.

Goal: Break the cycle of community disruption following disaster.

Objective: By July 2018 develop a plan to properly mitigate all impacted housing

Strategy: Relocate or elevate all damaged structures, including repetitive and severe loss structures affected by the June 2016 flooding event

Action:

- Conduct local workshops to encourage homeowners in high risk areas to relocate or elevate their homes (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partners: FEMA, HUD

Action:

- Use mitigation reconstruction to elevate homes above the design flood elevation (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partner: FEMA

Action:

- Coordinate with the WVSHMO to ensure the availability of HMGP funds to mitigate repetitive and severe repetitive loss structures (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: WV Floodplain Manager, FEMA, Federal Insurance & Mitigation Administration (FIMA)

Action:

- Develop mitigation strategies to make homes resistant to sheet flow off of adjacent steep slopes (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: WV Floodplain Manager, FEMA, FIMA

Strategy: Remove substantially-damaged structures in the floodway

Action:

- Identify substantially damaged homes to be removed and use property acquisition where required in the floodway (Short-term)

Coordinating Agencies: WVDOC (SRO), WVDHSEM

Supporting Partner: NFIP

Strategy: Address sheet flow damages for housing outside the floodplain

Action:

- Conduct outreach/education program to encourage weatherproofing, etc. during repair and/or reconstruction (Intermediate)

Coordinating Agency: WVDHSEM

Supporting Partners: WV Floodplain Manager, FEMA, FIMA

Goal: Valley communities are more disaster resilient

Several factors must be considered when addressing a lack of resiliency in the existing housing stock including, but not limited to; a cultural bias against moving away from a community despite the susceptibility of the community to severe and repetitive losses following each disaster, a shortage of resources necessary to replace severely damaged or destroyed private water crossings, inefficient and outdated infrastructure, and the absence of meaningful discussion on the long-term resiliency of these communities.

Objective: By July 2017 provide small, rural valley communities with alternative housing recovery and adaptive reuse options

Strategy: Coordinate with federal and nonfederal resources to fund and publish a design study specific to small, rural, valley communities

Action:

- Schedule a workshop for interested state or regional planning, architectural, and engineering associations and organizations to develop design options for alternative housing and adaptive reuse specific to small, rural, valley communities (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: CNCS, WV Humanities Council, WVAPA, WVU, AIA, ASCE, Association of State Floodplain Managers (ASFPM), FEMA Mitigation, WV Floodplain Management Association

Strategy: Support local communities to adopt any relevant aspects from the design study into their recovery strategies

Action:

- Incorporate applicable aspects of hazard mitigation and blighted and vacant property acquisition into the design study (Short-term)

Coordinating Agency: WVDOC (SRO)

Supporting Partners: CNCS, WV Humanities Council, WV APA, WVU

Objective: *By January 1, 2018 rebuild private water crossings destroyed or severely damaged during recent flooding disasters*

Strategy: Define resources to mitigate damaged private water crossings

Action:

- Identify a list of damaged private water crossings (Short-term)

Coordinating Agencies: WVDOC (SRO), WVSHMO, WVVOAD

Supporting Partners: HUD, NGOs

Action:

- With the assistance of the WVVOAD develop detailed cost estimates to replace destroyed or severely damaged private water crossings (Short-term)

Coordinating Agencies: WVDOC (SRO), WVSHMO, WVVOAD

Supporting Partners: HUD, NGOs

Action:

- Identify non-governmental funding sources to support replacement of destroyed or severely damaged private water crossings including funding from private nonprofit and philanthropic organizations (Intermediate)

Coordinating Agencies: WVDOC (SRO), WVSHMO, WVVOAD

Supporting Partners: HUD, NGOs

Potential Resources

FEMA

Flood Mitigation Assistance Grant Program (FMA)

This program addresses financial needs. Specifically, the State has prioritized HMGP for Mitigation Reconstruction, and if those funds are exhausted in that mission, then FMA may be used for Mitigation Acquisition of destroyed homes in the floodway.

Hazard Mitigation Data Collection Team

Provides a report to the State on opportunities related to the disaster with the intent of combining section 404 and section 406 mitigation activities. Other data resources can provide the overall big picture of damages in context of floodway, floodplains, landslide areas, or other geospatial relationships. FEMA/State GIS may assist.

HMGP

This resource provides financial grants for State priorities of reconstruction, elevation, infrastructure, and acquisition of affected properties. HMGP for the State of West Virginia for this disaster is estimated, as of Jan 20, 2017 to be \$48,244,559 and will provide significant opportunities for Mitigation Reconstruction projects. This grant program requires a nonfederal match, currently of 25% of all State approved projects.

National Flood Insurance Program (NFIP), Increased Cost of Compliance

This program addresses the additional costs of structure elevation when mitigating homes against future floods. It specifically provides addition payments to NFIP insureds who elevate structures.

Pre-Disaster Mitigation Grant Program (PDM)

This program is similar in application to the FMA, and specifically may be used for Mitigation Acquisition and Demolition as well.

Private Property Debris Removal Program (PPDR)

FEMA's optional program has been authorized in this disaster. It provides the means through financial support to remove debris from private property with owner's permission. It aids communities in abating health and safety issues, as well as removes the private property owner's liability when no other funds are available.

HUD

CDBG Entitlement Program provides financial support, however, it has been consistently used in the State for water projects only, and is not expected to be diverted to any housing needs for the current disaster.

CDBG-DR

CDBG-DR funds have been appropriated by Congress for this disaster. WV is expected to receive \$17 million in CDBG-DR funds that may be applied to housing needs. If the HMGP uses CDBG-DR funds to fund the 25% local match, it is estimated that \$11 million would allow for Mitigation Construction, for example, to be no cost to the community applicants. These two programs alone will provide significant hazard mitigation in general and many new flood resilient homes to WV communities.

Additional HUD programs:

Capacity Building for Community Development and Affordable Housing Grants

Federal Housing Authority – Approved Nonprofits Program

Federal Housing Authority – Good Neighbor Next Door Sales Program

HOME Investment Partnerships Program

Housing Choice Voucher Program (Section 8)

HUD, DOT, and EPA – Partnership for Sustainable Communities

Mortgage Insurance for Disaster Victims

Office of Public and Indian Housing – Indian CDBG Program

Office of Public and Indian Housing – Main Street Grants Program Hope VI

PD&R Disaster Recovery Toolkit

Public Housing Program

Sustainable Communities Initiative Resource Library

WVU

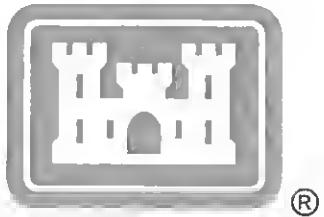
From Liability to Viability, A Legal Toolkit to Address Neglected Properties in West Virginia

A community guide of principals to assist in dealing with neglected properties. This guide is technical assistance to provide legal guidance towards remediating unsafe and unhealthy structures that contribute to blight.

VOAD

WVVOAD Private Bridge Replacement Guidelines

Guidelines for design and construction of private bridges to replace water crossings that were destroyed by the floods. The goal of this project is “Resiliently Bridging the Gap.” It is technical guidance that has been accepted across regulatory and compliance entities. It addresses the homes that have had repeated access impacts.



Mission: works to efficiently facilitate the restoration of infrastructure systems and services to support a viable, sustainable community, and improves resilience to and protection from future hazards.

The June 2016 storm event severely impacted a large portion of West Virginia. Unfortunately, most of the communities affected by the flood event already faced economic challenges and therefore lack the tools and resources necessary to fully recover. One of the most significant challenges in these areas, is a lack of infrastructure. This lack of adequate infrastructure affects every aspect of life from internet access to adequate wastewater treatment.

The Infrastructure Systems portion of the RSS builds upon the findings and conclusions of the MSA and contains specific strategies to not only address infrastructure damages resulting from the June 2016 flooding, but also to address gaps in infrastructure resiliency. It summarizes key findings regarding infrastructure systems in the State of West Virginia and defines recovery issues, goals, objectives, and strategies for recovery and to build resiliency following the flood event.

Key Findings

The Infrastructure RSF identified three recovery issues:

- Water and wastewater treatments were damaged and lack resiliency to recover
- Lack of broadband access makes flood recovery difficult in economically depressed areas
- Schools in the flood impact area damaged and/or destroyed

Issue: Many damaged water and wastewater treatment plants lack resiliency for timely recovery

Many water and wastewater treatment plants were damaged during the flood event. Given the aged and deteriorating condition of the plants and their infrastructure prior to the flood event, these facilities lack the resiliency for timely recovery.

The flood event impacted approximately 45 water treatment plants. Flooding, mud slides, landslides, bank erosion and bridge and road damages resulted in boil water advisories (BWA) due to damaged lines and water treatment plants being shut down due to turbidity, water loss and lack of power, flooded facilities, and lack of access to facilities during the flood event. This caused approximately 365,000 customers to be without service either during or after the flood event.

The table below details the most significantly impacted water treatment facilities:

Facility	Damage Description
Grantsville Municipal Water Department	plant shut down due to high turbidity
Clay-Roanoke Public Service District	facility flooded water loss line damage lack of access to lines and facility
West Virginia American Water-Kanawha Valley Public Service District	water loss lack of access to lines loss of communication loss of power lack of emergency power generators reduced pressure
Walton Public Service District	water loss line damage lack of access to facility loss of communication loss of power unreliable emergency power generators
Fort Gay Water Works	plant shut down due to high river levels line damage
Birch River Public Service District	water loss line damage
Craigsville Public Service District	facilities flooded
Richwood Water Works	water loss line damage loss of power
Lewisburg Public Service District	line damage loss of power
White Sulphur Springs Public Service District	lack of access to facility loss of power
Kanawha Falls Public Service District	plant shut down due to high turbidity line damage
Beverly Water and Sewage Plant	BWA due to high turbidity
Camden on Gauley-Craigsville Public Service District	loss of communication BWA due to extensive flooding

The majority of the plants have been repaired and are operating, however, the flood event revealed a number of vulnerabilities pertaining to water treatment plants in the impacted area. These vulnerabilities include the lack of flood risk management measures at the facilities, lack of access during flood events, lack of emergency backup power and unreliable communication systems during high water and extreme events.



Figure 2: Wastewater Treatment Plant. Source: WVNS-TV

In addition to damage to water treatment plants, eight sewage treatment plants (STP) within the impacted area were also damaged due to high water and bank erosion. These facilities and their damages include:

Facility	Impacts
Craigsville STP	Facility flooded (plant and pumps)
Richwood STP	Pump stations inoperable Line damage
White Sulphur Springs STP	Pump station and creek crossing inoperable Line damage
Ronceverte STP	Facility flooded Loss of power Main pump station inoperable
Rainelle STP	All pump stations inoperable Line damage
Clay STP	Facility flooded Loss of power

Kanawha County	Line damage
Alderson County	Minor damage to three separate STPs

The White Sulphur Springs and Ronceverte STPs required substantial repair work, all of which has been accomplished. The costs for repairs to these STPs ranges from \$250,000 to \$750,000. The largest vulnerability of wastewater treatment to flooding conditions revealed by the event is the need for flood risk management measures at the STPs.



Figure 3: Exposed Water Line. Source: WSAZ News

Additionally, as officials assessed the damage in the wake of the flood, the extent of failed, aging, and impaired water infrastructure was recognized. For example, only an estimated 35% of the residents of Clay County have potable water and 10% have sanitary sewer service. In Kanawha County, 95% of the residents have potable water service and 70% have sanitary sewer service. Even in Kanawha County, where the majority of residents have potable water and sanitary sewer service, the existing infrastructure is deteriorated and in need of rehabilitation, replacement, or relocation.

The affected communities listed in the tables above were struggling financially prior to the flood. As previously mentioned the downturn in the coal industry, combined with recurring natural disasters has negatively impacted their long term financial viability. These at-risk communities have little resilience to recurring natural disasters. Basic sector job loss has led to decreasing populations, and losses in retail commercial establishments which has in turn decreased the tax base in the respective communities. Consequently, the majority of the effected communities are experiencing both losses to tax revenue and a shrinking customer base resulting in the inability of water and sewer public service districts and municipalities to increase water and sewer rates due to their remaining customers' inability to pay.

Therefore, while much of the necessary repair work has been accomplished it has mostly consisted of stop gap measures which do not adequately address all of the problems associated with aging and deteriorated systems or the problem of underserved populations. These basic treatment facilities and their associated infrastructure still require further investments to ensure the long term viability of the systems themselves, as well as the communities they serve.

Goal: Enhance the resiliency of water and wastewater treatment plants to flooding

Objective: *Implement flood damage reduction measures for existing water treatment and wastewater treatments plants and their associated infrastructure*

Strategy: Develop and implement flood risk adaptive measures, identify sources of funding, obtain permits to construct

Action:

- Determine potential sources of funding

Coordinate Agency: WVDOC (SRO)

Supporting Partners: USACE, HUD, USDA-NRCS

Action:

- Determine potential flood risk adaptive measures for water and wastewater treatment plants

Coordinating Agency: USACE

Supporting Partners: WVDOC (SRO), HUD, USDA-NRCS

Objective: *Address Damaged, Aged, and Deteriorating Water and Wastewater Treatment Plants*

Strategy: Utilize existing programs and authorities to address environmental infrastructure needs

Action:

- Prioritize environmental infrastructure needs for funding purpose

Coordinating Agency: USACE

Supporting Partners: HUD, USDA, USDA-NRCS, USDA-RD

Action:

- Determine potential sources of funding

Coordinating Agency: WVDOC (SRO)

Supporting Partners: HUD, USDA, USDA-NRCS, USDA-RD

Strategy: Regionalize water and wastewater treatment plants and associated infrastructure

Action:

- Establish a panel of subject matter experts from state and local agencies and governments to determine the value of regionalization of water and wastewater treatment plants in order to pool resources and increase efficiency, and identify geographic areas which could be served by regionalized water infrastructure systems

Coordinating Agency: WVDOC (SRO)

Supporting Partners: EPA, HUD, USACE, USDA-RD

Action:

- Determine the infrastructure needs for each newly created region

Coordinating Agency: Local Governments

Supporting Partners: County Commissioners, RPDCs, HUD, and USDA-RD

Action:

- Determine potential sources of funding

Coordinating Agency: WVDOC (SRO)

Supporting Partners: EPA, HUD, USACE, USDA-RD, RPDCs

Potential Funding Sources

FEMA

Hazard Mitigation Grant Program (HMGP) assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration, the state needs a FEMA approved Enhanced State Mitigation Plan at the time of the disaster declaration to be eligible for increased funds under HMGP.

Flood Mitigation Assistance (FMA) Program is for projects and planning that reduces or eliminates long-term risk of flood damage to structures insured under the National Flood Insurance Program. FEMA requires state or local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance.

Pre-Disaster Mitigation (PDM) Program assists states or local communities in implementing a sustainable pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal assistance funding in future disasters. This program awards planning and project grants and provides opportunities for raising public awareness about reducing future losses before disaster strikes.

HUD

CDBG includes annual grants to qualified cities and counties to provide housing, expand economic opportunities and carry out a wide range of community development activities, including the construction and upgrade of public utilities such as water and sewer facilities. It should be noted that HUD funding only targets areas and populations which fall within certain economic criteria (poverty, minorities).

USDA-NRCS

Emergency Watershed Protection Program provides funding and technical assistance to conserve natural resources; this is an emergency recovery program. Removes debris from streams, road culverts, and bridges, reshapes and protects eroded banks, repairs damaged drainage facilities, etc.

USDA

Rural Utilities Service - Water and Waste Disposal Systems Loans for Rural Communities provides assistance for meeting rural water and waste disposal needs in cities and towns with

population of 10,000 or less. The loans are intended for providing basic human amenities, and alleviating health hazards. Funds may be used for the installation, improvement, or expansion of rural water facilities and the repair of distribution lines and well-pumping facilities.

Rural Development Water and Environmental Programs provides funding for the construction of water and waste facilities in rural communities with populations of 10,000 or less. WEP also provides funding to organizations that provide technical assistance and training to rural communities in relation to their water and waste activities. Multiple financial assistance programs and grants available. Public entities, nonprofit organizations, and recognized Tribes may qualify for assistance.

EPA

Drinking Water State Revolving Funds (DWSRF) partnership between federal and state to help ensure safe drinking water, the program provides financial support to water systems and to state safe water programs. States get the revolving funds and match it then use that money to provide loans and other authorized assistance to fund eligible infrastructure projects. Used for drinking water treatment, fixing leaky or old pipes, water supply source, etc. As communities pay back their loans the money goes back into the pot to be revolcd and used again somewhere else.

DOC

US Economic Development Admininstration supports development in economically distressed areas through investments that foster job creation and attract private investment. EDA's Public Works Program helps communities in economic decline upgrade their physical infrastructure, including drinking water and wastewater treatment faciltics. EDA grants can underwrite planning and construction costs for projects in these areas that lead to job creation in the community.

Appalachian Regional Commission

Grant Programs awarded to states, public bodies, and private nonprofits for projects that create opportunities for self-sustaining economic development and improve quality of life for the people of Appalachia. ARC has four different types of Grants that fund environmental protection related activities: regional development grants, area development grants, local development district assistance grants, and research, technical assistance, and demonstration project grants. Grants for physical basic infrastructure including water and sewer facilities that enhance economic development opportunities or address serious health issues for residential customers.

USACE

Environmental Infrastructure Section 340 design and construction assistance to non-Federal interests, including nonprofit entities, for carrying out water related environmental infrastructure and resource protection and development projects in southern WV, including projects for wastewater treatment and related facilities; water supply, storage, treatment, and distribution facilities; surface water resource protection and development, and environmental restoration.

These projects are cost shared with a non-Federal sponsor and funded 75% Federal and 25% non-Federal.

Environmental Infrastructure Section 571 provides Design and construction assistance to non-Federal interests, including nonprofit entities, for carrying out water related environmental infrastructure and resource protection and development projects in southern WV, including projects for wastewater treatment and related facilities; water supply, storage, treatment, and distribution facilities; surface water resource protection and development for 18 counties in central WV. Projects are selected for implementation from a competitive application process administered by the Corps and the WVJDC. Projects are cost shared 75% Federal and 25% non-Federal.

Flood Plain Management Services Section 206 provides a full range of technical services and planning guidance that is needed to support effective flood plain management, funding must be requested and is provided to state, regional, and local governments.

Silver Jackets is a partnership between Federal and State agencies who work together to leverage resources and funding. The Silver Jackets program goals are to facilitate strategic life-cycle flood risk reduction, create or supplement continuous mechanisms to collaboratively solve state-prioritized issues and implement or recommend those solutions. Leverage and optimize resources, improve and increase flood risk communication and present a unified interagency message, and establish close relationships to facilitate integrated post-disaster recovery solution.

Issue: Lack of Broadband Access

The lack of broadband access across the state makes flood recovery more difficult in economically depressed areas. These local communities are struggling financially due to losses in basic sector employment, shrinking populations, and recurring damages due to flooding and dwindling customer bases. Without state of the art businesses tools (such as broadband access) communities are unable to attract new web-dependent businesses and residents who demand these services, and are therefore placed in a non-competitive disadvantaged position being financially incapable of a robust recovery.

As issues were surveyed across the impacted area in the wake of the flooding, it became apparent that a barrier to community recovery is the lack of broadband internet service in the state. West Virginia currently ranks 45th in the nation in terms of broadband connectivity. Fifty-seven percent of the residents have access to broadband, while 28% of the population is considered to be underserved.

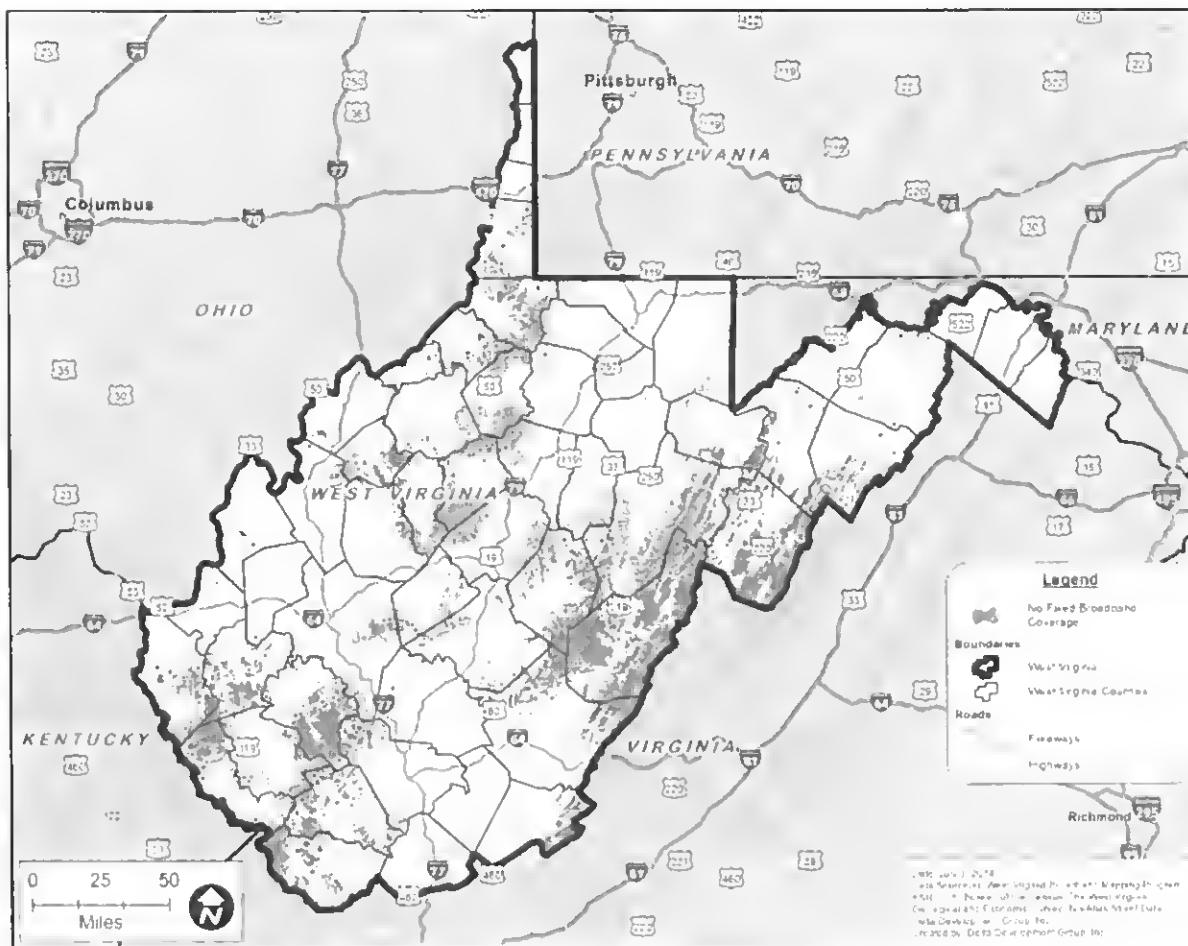


Figure 4: Source: State of West Virginia Broadband Strategic Plan

Broadband access is considered vital to businesses and governments who rely on it for communication and data transmission. Broadband is also essential for effective and efficient management of hospitals, schools, banking and emergency services. Perhaps most importantly, given hardships in the job market and the need to retrain workers displaced by the downturn in the coal industry, broadband is essential to making online higher education accessible to rural communities.

The 2014 State of West Virginia Broadband Strategic Plan was developed by the West Virginia Geological and Economic Survey and the Office of GIS Coordination, along with several other state services. The Plan recommended a series of objectives, some of which include: 1) identification of a lead agency for each region 2) development of a sustainable funding program for broadband programs 3) promotion of broadband education and utilization 4) reduction in the cost of access and 5) incorporation of broadband infrastructure into future community planning. The strategies suggested by this RSS tie directly to the recommendations made by the Strategic Plan.

Goal: Increase accessibility to broadband service

Objective: Deploy broadband infrastructure across the state

Strategy: Re-evaluate and prioritize the recommendations made by the Strategic Plan

Action:

- Conduct a review to determine which recommendations made by the plan have been implemented and what successes have been achieved

Coordinating Agency: WVBEC

Supporting Partners: WV Geological and Economic Survey (WVGES), WV Office of GIS Coordination, WVS BDC, DOC, RPDCs

Action:

- Prioritize remaining recommendations for implementation

Coordinating Agency: WVBEC

Supporting Partners: WVS BDC, DOC, RPDCs

Action:

- Perform a gap analysis to determine whether any new recommendations should be made and whether the Strategic Plan requires an update

Coordinating Agency: WVBEC

Supporting Partners: WVGES, WVGIS, WVS BDC, DOC, RPDCs

Strategy: Develop and maintain a list of potential funding sources for broadband infrastructure deployment

Action:

- Ensure the viability of planning groups such as Connect West Virginia

Coordinating Agency: WVBEC

Supporting Partners: DOC, RPDCs

Action:

- Identify funding sources

Coordinating Agency: WVBEC

Supporting Partners: WVGES, WVGIS, WVS BDC, DOC, RPDC

Potential Funding Sources

NTIA

State Broadband Initiative serves to implement the purposes of both the American Recovery and Reinvestment Act and the Broadband Data Improvement Act, which envisioned a comprehensive program – led by state entities or non-profit organizations working at their direction – to help integrate broadband and information technology into state and local economies.

State and Local Implementation Grant Program (SLIGP) is designed to provide resources to assist regional, state, local, and tribal government entities as they plan for the nationwide public safety broadband network. NTIA awarded \$116.5 million in grants to 54 states and territories. This funding provides recipients with the resources to work with stakeholders throughout the state or territory to identify needs, gaps, and priorities for public safety wireless broadband.

State of West Virginia Broadband Strategic Plan has made investments in both the availability and promotion of broadband services. The analysis of the State's programs and the regional broadband plans demonstrate that more planning, deployment, and development of broadband initiatives is needed to decrease the digital divide that WV citizens experience from the lack of full broadband deployment, inadequate speeds, and low adoption. Mapping projects, regional surveys, interviews with providers, and the continued request for broadband funding demonstrates both a need and a desire for improving broadband access, speed, and availability in WV. WV's Broadband Strategic Plan focuses on four main areas for improvement – 1) Strategic Direction Objectives, 2) Education and Demand Promotion, 3) Infrastructure Development, and 4) Economic Development.

USDA

Rural Utilities Services administers programs that provide much-needed infrastructure or infrastructure improvements to rural communities. These include water and waste treatment, electric power and telecommunication services.

Farm Bill Broadband Loans & Loan Guarantees provides funds for the costs of construction, improvement, or acquisition of facilities and equipment needed to provide service at the broadband lending speed for eligible rural areas.

Telecommunications Infrastructure Loans & Loan Guarantees provides financing for the construction, maintenance, improvement, and expansion of telephone service and broadband access in rural areas.

Community Connect Grants helps fund broadband deployment in rural communities where it is not yet economically viable for private sector providers to deliver service. Funds can be used for construction, acquisition, or leasing of facilities used to deploy broadband service, the cost of providing broadband service free of charge to the critical community facilities for two years, and some of the grant may be used for improvement, expansion, construction, or acquisition of a community center that provides online access to the public.

Federal Communications Commission

Federal Communications Commission Rural Health Care has initiated a pilot funding program to facilitate the creation of a nationwide broadband network dedicated to health care, connecting public and private non-profit health care providers in rural and urban location.

Appalachian Regional Commission

Information Age Appalachia Program funds broadband access to the rural Appalachia area, focusing on access to infrastructure, education, training and workforce development, E-commerce, and tech-sector employment.

Issue: Several schools in the impacted area were badly damaged. Many of the damages could have been avoided with the use of flood risk management measures

Approximately 33 schools were damaged by the flood event. Damages varied from impacts to playgrounds, security systems and heating and cooling systems to complete loss. In cases where schools were not repaired in time for the beginning of the new school year, students were relocated to neighboring school systems or housed in temporary, modular classrooms. The table below details school damages across the impact area.

School	County	Impacts
Flatwoods Elementary	Braxton	Moderate flooding in building Playground complete loss
Middle Burch Elementary	Braxton	Loss of food from power outage Damage to security system
Davis Elementary	Braxton	Loss of food from power outage Damage to security system
Burnsville Elementary		Loss of food from power outage Damage to security system
Braxton Elementary		Loss of food from power outage Damage to security system
H.E. White Elementary	Clay	Severe flooding in the building Loss of Access Playground complete loss
Clay High		Basement flooded Damage to sports equipment
Clay County Bus Garage		3 buses complete loss Equipment damage
Anstead Elementary	Fayette	Minor water in basement
Alderson Elementary	Greenbrier	Boiler room flooded
Rupert Elementary	Greenbrier	Lower level classrooms flooded
Greenbrier West High		Lack of access
Rainelle Elementary	Greenbrier	Moderate damage – details unknown
Elkview Middle	Kanawha	Moderate flooding in building No flood insurance
Clendenin	Kanawha	Severe flooding in building

		HVAC and electrical service flooded
Herbert Hoover High	Kanawha	Severe flooding in building First floor total loss HVAC and electrical service flooded
Bridge Elementary	Kanawha	Severe flooding in building No flood insurance
Eastwood Elementary	Monongalia	Moderate flooding in building
Warm Springs Intermediate	Monongalia	Hail damage
Warm Springs Middle	Monongalia	Hail damage
Berkeley Springs High	Monongalia	Hail damage
Richwood High	Nicholas	Boiler room, kitchen gym and cafeteria flooded Boiler room flooded
Richwood Middle	Nicholas	Complete loss
Summersville Middle	Nicholas	Severe flooding in school
Summers County High	Summers	Minor flooding in school Football field flooded
Glade Elementary	Wcbster	Minor flooding in school

While most of the schools are currently in operation, several schools were damaged such that they were unable to open in time for the 2016-2017 school year. These include Summersville Middle, Richwood Middle, and Richwood High. The most severely damaged schools face significant challenges. Under the National Flood Insurance Program, any building which is damaged more than 50% must be brought up to applicable standards and codes during repair. While FEMA has the authority to assist with repairs to schools through the PA grant program, this is a cost shared program. FEMA covers 75% of the cost, while the state or local governments are responsible for the remaining 25%. In economically depressed communities, it is difficult to raise the funds necessary to support local cost shares for these projects. Funds may be available through West Virginia's Rainy Day fund, but this source of funding is not robust.

Additionally, a review of the damages to schools reveals several vulnerabilities associated with the school system and their infrastructure. Among these are a lack of flood risk management measures and lack of emergency backup power.

Objective: Enhance the School Systems Resiliency to Flooding

Strategy: Consider pros and cons of school consolidation to determine best use of resources and best outcome for the whole community in providing modern facilities in less flood prone areas

Action:

- Initiate a study, led by the West Virginia Department of Education, to identify potential opportunities for school consolidation

Coordinating Agency: WVDE

Supporting Partners: local communities, local school boards, EPA, USACE, RPDCs, HUD,

Action:

- Identify reclaimed mine land which may be used for new school sites

Coordinating Agency: RPDC

Supporting Partners: DOC, FEMA, HUD, local municipalities

Objective: Construct flood risk management measures for existing schools and their associated infrastructure

Strategy: Develop and implement flood risk management measures and identify sources of funding

Action:

- Prioritize by county the schools (by ability to pay and flood risk) with the highest flood risk

Coordinating Agency: WVDE

Supporting Partners: USACE, FEMA, RPDC, USDA-NRCS

Action:

- Determine potential flood risk management measures for schools and their associated infrastructure

Coordinating Agency: USACE

Supporting Partners: WVDE, FEMA, RPDCs, USDA-NRCS

Action:

- Determine potential sources of funding

Coordinating Agency: WVDE

Supporting Partners: USACE, FEMA, RPDCs, USDA-NRCS

Potential Funding Sources

USDA

Community Facilities Loans and Grants program provides direct loans, guaranteed loans and project grants for the construction, enlargement, extension or other improvement of community facilities providing essential services to rural residents.

Secure Rural Schools Payments program compensates counties for the tax-exempt status of federal national forest lands, funds are allocated to states and passed through to local governments at the county level. The Forest Service payments can be spent on roads and schools in the counties where the national forests are located.

DHHS

Head Start provides early childhood development services to low-income children, administered by the Administration of Children and Families (ACF). Federal Head Start funds are provided

directly to local grantees, funds can be used for purchase, construction, or to make major renovations to Head Start facilities.

DOEd

School Improvement Grants for state education agencies that make competitive sub-grants to local educational agencies that demonstrate the greatest need for the funds and strongest commitment to use the funds to provide adequate resources in order to raise achievement of students in their lowest-performing schools.

FEMA

Public Assistance helps states, local governments, including school districts recover from natural disasters. Funds may be used for debris removal, emergency protective measures, or repairing and replacing damaged buildings, utilities, roads and bridges, recreational facilities, and water-control facilities.

Hazard Mitigation Grant Program (HMGP) assists in implementing long-term hazard mitigation planning and projects following a Presidential major disaster declaration, the state needs a FEMA approved Enhanced State Mitigation Plan at the time of the disaster declaration to be eligible for increased funds under HMGP.

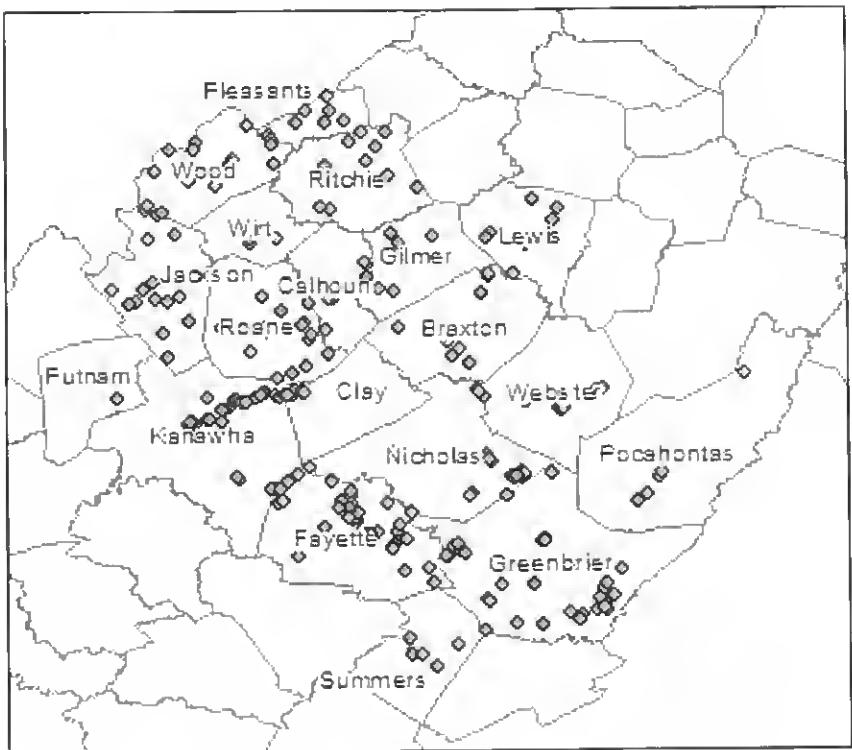
National Endowment for the Humanities

The Office of Challenge Grants: (National Foundation on the Arts and the Humanities Act): Strengthens humanities education by supporting long-term institutional development. Funds may be used to purchase equipment, upgrade technology, renovate or construct facilities, add library collections, provide staffing, provide education programming, and increase or establish endowments.

Miscellaneous Information

Following the flood event, USACE was actively engaged with local, state, and federal agencies in support of immediate recovery and response efforts. Through coordination efforts, the need to inventory streambank erosion sites threatening public facilities such as roadways, bridges, schools, and public utilities was identified. This inventory was completed in the weeks following the event in partnership with the WV Army National Guard, WV Division of Highways, and multiple local municipalities and public service districts. Overall, a total of 264 sites were identified within 19 counties as shown in the following Table and Figure. Each site was assessed at a reconnaissance level. Costs to repair the identified sites were estimated at \$317M. It is important to note that of the 264 identified sites, only 192 sites were located within the counties eligible for individual assistance. Counties eligible for individual assistance are denoted with an asterisks (*) in the following Table.

County	Number of Site
Braxton	9
Calhoun	7
Clay*	5
Fayette*	42
Gilmer	6
Greenbrier*	36
Jackson*	15
Kanawha*	33
Lewis	7
Lincoln*	Not Evaluated
Monroe*	Not Evaluated
Nicholas*	19
Pleasants	10
Pocahontas*	5
Putnam	1
Ritchie	10
Roane*	18
Summers*	5
Webster*	14
Wirt	3
Wood	19



Potential Funding Sources

Section 14 Emergency Streambank and Shoreline Protection provides authority for the Corps of Engineers to plan and construct emergency streambank and shoreline protection projects to protect endangered highways, highway bridge approaches, and public facilities such as water and sewer lines, churches, public and private nonprofit schools and hospitals, and other nonprofit public facilities. Section 14's require a non-Federal cost share sponsor and construction cost is shared 65% Federal / 35% non-Federal.

Federal Flood Control and Coastal Emergencies has authority under PL 84-99, Flood Control and Coastal Emergencies (FCCE) (33 U.S.C. 701n) (69 Stat. 186) for emergency management activities. Under PL 84-99, the Chief of Engineers, acting for the Secretary of the Army, is authorized to undertake activities including disaster preparedness, advance measures, emergency operations, rehabilitation of flood control works threatened or destroyed by flood, protection or repair of federally authorized shore protective works threatened or damaged by coastal storm, and provisions of emergency water due to drought or contaminated source. In prior events,

authorization and funding for FCCE activities has been provided through supplemental appropriations. At this time, specific funding for FCCE efforts has not been made available in response for the June 2016 flooding.

Next Steps

The Recovery Support Strategy is not an end but a beginning. The collaborative effort that all partners spent in the RSS development creates direction for continuing support and involvement of all agencies and nongovernmental organizations in the State of West Virginia as they continue toward full recovery and increased resiliency. The implementation of the recovery goals, strategies, and plans can last for many years.

On November 25, 2016, FEMA's Region III office in Philadelphia, PA, established a West Virginia Recovery Office in Charleston that will continue to support the State's recovery efforts from the Spring Floods of 2016.

Acronyms

AET	Advance Evaluation Team
AIA	The American Institute of Architects
APA	American Planning Association
ASFPM	Association of State Floodplain Managers
BWA	Boil Water Advisory
CDBG-DR	Community Development Block Grant - Disaster Recovery
CDFI	Community Development Finance Institution
CEDS	Comprehensive Economic Development Strategies
CNCS	Corporation for National and Community Services
CPCB	Community Planning and Capacity Building
DOC	US Department of Commerce
DOE	US Department of Energy
DOEd	US Department of Education
DOI	US Department of the Interior
DOL	US Department of Labor
DOT	US Department of Transportation
DWG	National Dislocated Worker Grants
EDA	Economic Development Administration
EDA (local)	Local Economic Development Authorities
EMI	Emergency Management Institute
EPA	Environmental Protection Agency
FDRC	Federal Disaster Recovery Coordinator
FDRO	Federal Disaster Recovery Officer
FEMA	Federal Emergency Management Agency
FIMA	Federal Insurance Mitigation Administration
FMA	Flood Mitigation Assistance
FMA	Floodplain Management Association
HHS	US Department of Health and Human Services
HMGP	Hazard Mitigation Grant Program
HUD	US Department of Housing and Urban Development
ICC	International Code Council
IJDC	Infrastructure and Jobs Development Council
IRC	Interagency Recovery Coordination
ITA	International Trade Administration
MSA	Mission Scoping Assessment
NDRF	National Disaster Recovery Framework

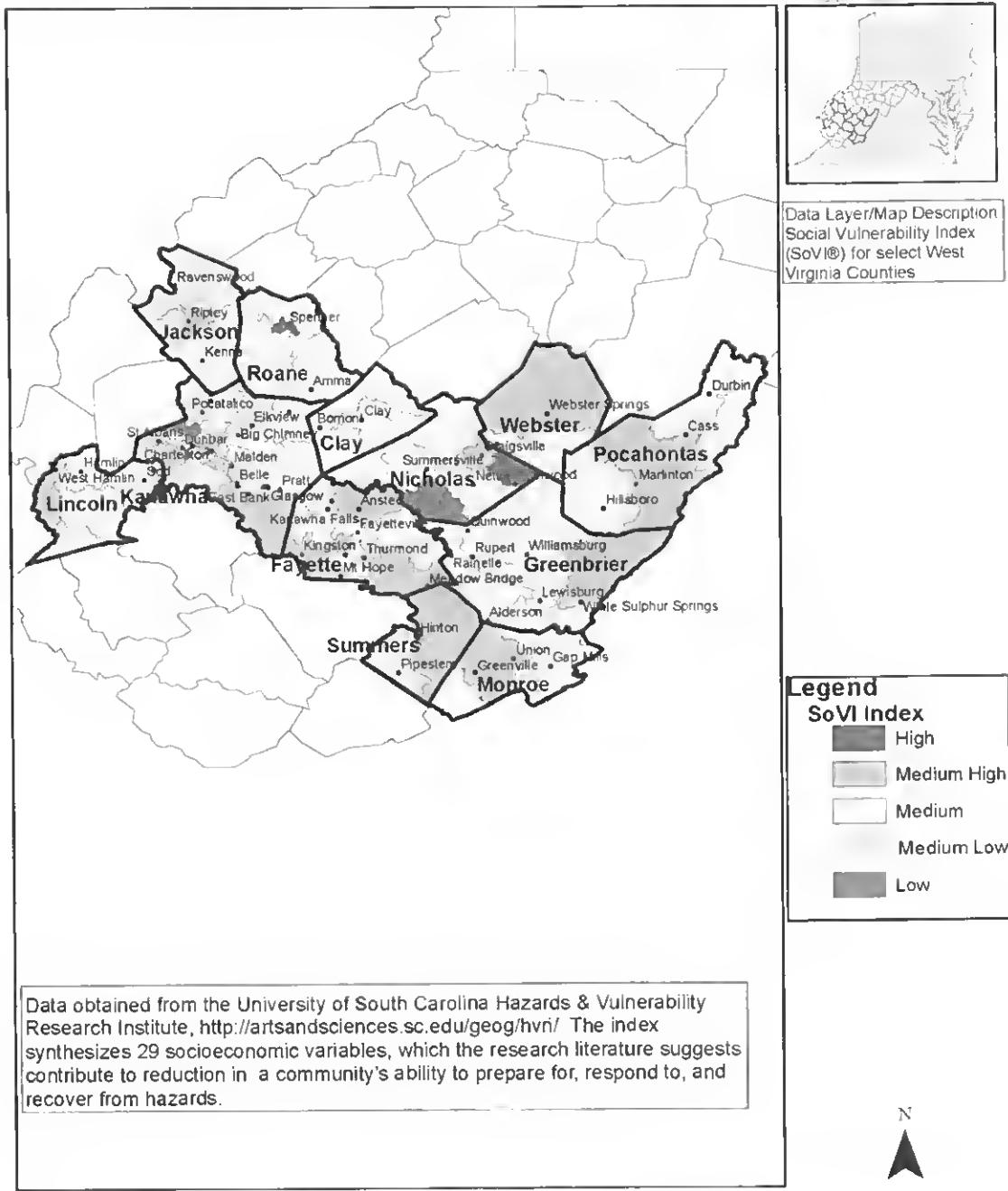
NDRS	National Disaster Recovery Support
NEMA	National Emergency Management Association
NFIP	National Flood Insurance Program
NFIP CRS	National Flood Insurance Program Community Rating System
NGO	Nongovernmental Organization
NOAA	National Oceanic and Atmospheric Agency
NRCS	National Resources Conservation Service
NREL	National Renewable Energy Labs
NTIA	National Telecommunications Information Administration
PA	Public Assistance
PDM	Pre-Disaster Mitigation Program
POWER	Partners for Opportunity and Workforce and Economic Revitalization
PPDR	Private Property Debris Removal
PPP	Public-Private Partnership
PTAC	Procurement Technical Assistance Center
RPDC	Regional Planning and Development Council
RSF	Recovery Support Function
RSS	Recovery Support Strategy
SBA	Small Business Administration
SBDC	Small Business Development Centers
SCO	State Coordinating Officer
SDRO	State Disaster Recovery Officer
SHMO	State Hazard Mitigation Officer
SLIGP	State and Local Implementation Grant Program
SoVI	Social Vulnerability Index
SRO	State Resiliency Office
STP	Sewage Treatment Plant
SWOT	Strengths, Weaknesses, Opportunities, and Threats
USACE	US Army Corps of Engineers
USDA	US Department of Agriculture
USDA FSA	USDA Farm Service Agency
USDA NRCS	USDA Natural Resource Conservation Service
USDA RD	USDA Rural Development
VOAD	Voluntary Organizations Active in Disasters
WVACVB	WV Association of Convention & Visitors Bureaus
WVAPA	WV Chapter of American Planning Association
WVARNG	WV Army National Guard
WVBEC	WV Broadband Enhancement Council
WVDA	WV Department of Agriculture

WVDE	WV Department of Education
WVDEP	WV Department of Environmental Protection
WVDHSEM	WV Division of Homeland Security & Emergency Management
WVDOC	WV Department of Commerce
WVDOH	WV Department of Highways
WVDOP	WV Department of Personnel
WVFMA	WV Floodplain Management Association
WVGES	WV Geological and Economic Survey
WVGIS	WV Office of GIS Coordination
WVHDF	WV Housing Development Fund
WVHPO	WV Historic Preservation Office
WVSBDC	WV Small Business Development Council
WVSHMO	WV State Hazard Mitigation Officer

Attachment 1

Social Vulnerability Index (SoVI®) for WV Declared Counties

4273-DR-WV Incident: Severe Storms, Flooding, Landslides, and Mudslides



Datum WGS 1984

Prepared By Cassaundra J Vincent

Attachment 2

Interagency Recovery Coordination

RECOVERY SUPPORT FUNCTIONS	Community Planning and Capacity Building	Economic	Health and Social Services	Housing	Infrastructure Systems	Natural and Cultural Resources
	Coordinating Primary	Primary	Primary	Primary	Primary	Primary
DHS/FEMA	Coordinating Primary	Primary	Primary	Primary	Primary	Primary
Department of Commerce (DOC)	Supporting	Coordinating Primary	Primary	Supporting	Supporting	Supporting
Department of Health and Human Services (HHS)	Supporting	Supporting	Coordinating	Supporting	Supporting	
Department of Housing and Urban Development (HUD)	Primary Supporting	Supporting	Primary	Coordinating Primary	Supporting	
U.S. Army Corps of Engineers (USACE)	Supporting				Coordinating Primary	Supporting
Department of the Interior (DOI)	Supporting	Supporting	Primary		Supporting	Coordinating Primary
Department of Agriculture (USDA)	Supporting	Primary	Primary	Primary	Supporting	Supporting
Environmental Protection Agency (EPA)	Supporting	Supporting	Primary	Supporting	Supporting	Primary
Corporation for National and Community Service (CNCS)	Supporting	Supporting	Primary	Supporting		Supporting
Department of the Treasury		Primary	Supporting		Supporting	
Small Business Administration (SBA)	Supporting	Primary	Supporting	Supporting		
Department of Education	Supporting		Supporting		Supporting	
Department of Justice (DOJ)	Supporting		Primary	Primary		
Department of Transportation (DOT)	Supporting		Supporting		Primary	
General Services Administration (GSA)	Supporting	Supporting		Supporting	Supporting	Supporting
Department of Labor (DOL)		Primary	Primary			
Department of Energy (DOE)				Supporting	Primary	
Delta Regional Authority	Supporting	Supporting			Supporting	Supporting
Department of Homeland Security (DHS)	Supporting	Primary			Primary Supporting	